REMARKS

Paragraph 0001 of the specification was amended to include the serial numbers of the co-pending applications.

No new matter has been added.

CLAIMS

Claim rejections under 35 U.S.C. § 102

The Examiner rejected Claims 1-3, 5, 7, 8, and 10-14 under "35 U.S.C. 102(b) as being anticipated by EP 0973 336 A2 to Ando et al." Specifically with regards to Claims 1, 5, 7 and 11-14, the Examiner stated that:

> In section 120 Ando states that the search area of a block of a reference, or previous image, is set. Establishing the search area of the reference block is equivalent to selecting a predetermined pattern of pixels in the previous image, as claimed, because the search area will have a unique pixel pattern based on the size of the area of the reference block.

Applicants respectfully submit that the interpretation of Claim 1 and Ando et al. presented by the Examiner is flawed. Claim 1 recites "selecting a predetermined pattern of pixels in the previous image" and "computing a difference measure for each of a plurality of pixel blocks in the previous image to form a plurality of difference measures using the predetermined pattern of pixels". Thus, in Claim 1 the predetermined pattern of pixels is used in computing a difference measure for each of a plurality of pixel blocks. However, in Ando et al. each reference block has its own search area. Specifically, Ando et al. teaches that "the search area of a block of a reference frame is initially set (at step S21)." (Ando et al., Col 23, section 0121). Furthermore, Ando et al. teaches that "a search area SA is defined on the periphery of a block RBLCK of the reference frame 402 corresponding to the block CBLK as an origin." (Col. 5, section 0029, lines 6-8) (see also Fig. 2 of Ando et al.). In addition, Ando reinforces the concept of using multiple search areas in describing that when "a moving vector

is searched, search areas overlap." (Ando et al., Col. 20, section 0108, lines 46-47). Thus, Applicants respectfully submit that the search areas of Ando et al. do not teach or suggest "computing a difference measure for each of a plurality of pixel blocks in the previous image to form a plurality of difference measures using the predetermined pattern of pixels" as recited in Claim 1. Accordingly, Applicants request reconsideration and withdraw of the rejection of Claim 1.

Applicant further submits that the checkerwise thinning process described by Ando et al. is not equivalent to the "predetermined pattern of pixels in the previous image" as recited in Claim 1. Specifically, Ando et al. teaches that "the block matching process is performed by checkerwise thinning out pixels of a block of a reference frame and pixels of a relevant block of the current frame." (emphasis added) (Ando et al., Col 25, section 0133, lines 39-42). Thus, Ando teaches to use checkerwise thinning on each block. However, as explained above, in Claim 1 the predetermined pattern of pixels is used in computing a difference measure for each of a plurality of pixel blocks. Thus, Applicants respectfully submit Claim 1 is patentable over Ando et al. Furthermore, Applicants respectfully submit that Claims 2-6, which depend from Claim 1, are likewise patentable.

Like Claim 1, Claim 7 recites "selecting a predetermined pattern of pixels in the previous image." Furthermore, Claim 7 recites "selecting a subpattern of pixels from the predetermined pattern of pixels" and " computing a first difference measure for each of a first plurality of pixel blocks in the previous image to form a plurality of first difference measures using the subpattern of pixels." With regards to Claim 7, the Examiner further stated that "the sub pattern of pixels, as claimed in claim 7, is taught by Ando, whereby current frames are thinned."

However, Applicants respectfully submit that in Claim 7, the subpattern of pixels are used for computing a first difference measure for each of a first plurality of pixel blocks in the previous image to form a plurality of first difference measures". As explained above with respect to Claim 1, neither the search areas or checkerboard thinning process taught by Ando et al. teach or suggest the predetermined pattern of pixels. Consequently, the "subpattern of pixels" is also not taught by Ando et al. Therefore, Applicant respectfully request reconsideration and withdrawal of the rejection of Claim 7. Furthermore, Applicants respectfully submit that Claims 8-14, which depend from Claim 7 are also patentable.

Claim rejections under 35 U.S.C. § 103

The Examiner rejected Claim 4, 6, 9 and 15-19 as being unpatentable over EP 0 973 336 A2 to Ando et al. Applicants respectfully submit that due to the remarks presented above withregards to Claims 1 and 7, the rejection of Claims 4, 6 and 9 have been rendered moot because Claims 4 and 6 depend from Claim 1 and Claim 9 depends from Claim 7.

With respect to Claims 15-19, the Examiner stated that "the processors, comparator, buffer, and cache as claimed in claims 15-19, for the purpose of performing differencing, storing, and comparison, of pixel data, are well known functions, and components of motion vector calculation schemes and apparatuses." However, Claim 15 recites "a first first-phase processing unit coupled to the frame buffer and configured to compute a first plurality of difference measures using a predetermined pattern of pixels". As explained above with respect to Claim 1, Applicants respectfully submits that Ando does not teach or suggest using a predetermined pattern of pixels as used in the Claims. Thus, Applicants respectfully

request reconsideration and withdrawal of the rejection of Claim 15. Furthermore, Applicants respectfully request reconsideration and withdrawal of the rejection of Claims 16-19, which depend from Claim 15.

CONCLUSION

Claims 1-19 are pending in the present application. Reconsideration and allowance of these claims is respectfully requested. If there are any questions, please telephone Edward Mao at (925) 895-3546 to expedite prosecution of this case.

Respectfully submitted,

Reg. No. 38,186
1 For

Customer No.: 022888

Edward S. Mao
Attorney for Applicants
Reg. No. 40,713

I hereby certify that this correspondence is being deposited with the United States Postal Service as FIRST CLASS MAIL in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA, 22313-1450, on August 11, 2003.

Aug. 11, 2003
Date

Carrie Reddick
Signature: Carrie Reddick